Draft Poisoning

7/3/2006

Definition: All poisoning related deaths and hospitalizations including accidental overdose of drug, wrong drug given or taken in error, and drug taken inadvertently; accidents in the use of drugs; and the damaging physiologic effects of ingestion, inhalation, or other exposure to a broad range of chemicals, including pesticides, heavy metals, gases/vapors, drugs, and a variety of common household substances, such as bleach and ammonia. Poisoning hospitalizations for 1989-2004 and deaths for 1990-1998 include all death records with an ICD 9 code of E850-859, E950-E952, E962, E980-E982, or E972. For 1999-2004, the ICD 10 codes include X40-49, X60-X69, X85-X90, Y10-Y19, Y35.2.

Washington State Goal Statement:

- Reduce unintentional poisoning deaths by 5% from 10.2 per 100,000 in 2004 (626 deaths) to no more than 9.7 per 100,000 by 2010.

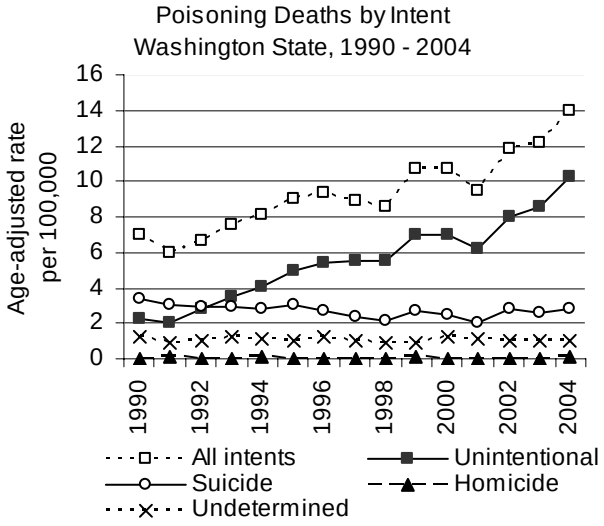
National Healthy People 2010 Goals:

- Reduce poisoning death rate to no more than 1.5 per 100,000. *In 2004, the poisoning death rate in Washington was 14.0 per 100,000.*

Statement of the Problem:

Poisoning is the second leading cause of unintentional injury-related death and third leading cause of unintentional hospitalization in Washington State (based on 2004 data). Washington state has the 8th highest poisoning death rate in the U.S. Over 90% of poisoning deaths in Washington State are due to drug overdoses.

Unintentional poisoning death rates have increased significantly during the past 13 years. Unintentional poisoning death rates in Washington have increased by 345% from 2.3 to 10.2 per 100,000 between 1990 and 2004. Suicide, homicide and undetermined poisoning rates have remained relatively stable in this same time period. Because of this trend, the remainder of this chapter will focus on unintentional poisoning.



From 2001-2003, death data from Washington State show that the unintentional poisoning death rates are highest for males 35 to 54 years of age. American Indians and Alaska Natives have higher poisoning death rates compared to other race groups, and non-Hispanics compared to Hispanics. Poisoning death rates are higher in low income neighborhoods and among those with lower education.

While the highest rates of death occur among adults, the majority of calls to the Washington State Poison Control Center occur for children under the age of 5.

In states and counties[1] that have conducted in-depth examination of the increase in poisoning deaths, the misuse of prescription drugs classified as opiates or opioids accounted for much of the increase. Specific prescription drugs mentioned in the studies include oxycodone, hydrocodone, and methadone. Opiates are narcotic drugs that are used for pain relief. They are derived from opium or one of its natural or synthetic derivatives. Heroin is an illicit opiate. After a fatal overdose, it can be difficult to disaggregate heroin from prescription-type opiates.

Misuse of prescription drugs can come in different forms: prescription-type drugs being sold on the street; prescription drugs being stolen from pharmacies and obtained via the internet; patients taking more than the recommended amount of a prescription drug; patients not being warned by physicians about the potential for overdose when taking multiple drugs and or alcohol; and patients not being monitored closely by physicians for development of addiction or tolerance to the prescription.

In a review of all opiate-related death certificates in Washington State between 1995 and 2004, there was a shift from illicit and unspecified opiate-related deaths to prescription opiate-related deaths. The review also found methadone, oxycodone and hydrocodone increasingly mentioned on death certificates in this same time frame. The data on the death certificate does not include the source of the prescription drug. While males age 35-54 years old have the highest risk of unintentional poisoning death overall, males and females have similar rates of prescription opiate-related deaths.

The volume of prescription opioids distributed to hospitals and pharmacies in Washington increased dramatically from 1997 to 2004. Methadone had the largest increase (974%) from 22,950 grams in 1997 to 223,578 grams in 2004, and oxycodone had the next largest increase (580%) from 145,595 grams to 842,706 grams.[i] Prescriptions in Washington for the most potent opioids (Schedule II), as a percentage of all scheduled opioid prescriptions (II, III, and IV), doubled between 1996 and 2002 in the Washington State workers' compensation system. Among long-acting opioids, the average daily morphine equivalent dose increased by 50%, to 132 mg/day.[ii]

A possible causal link between high doses of potent opioids and death from accidental overdose relates to respiratory depression. Use of other drugs in combination with opioids can markedly increase the chance of death due to potentiation of respiratory depression effects. In addition long-acting opioids may have severe adverse consequences in a delayed fashion, hours after ingestion.[ii] For example, methadone is a long-acting opiate and the pain relieving effects wear off before the drug is substantially cleared from the body - for this reason long-acting opiates must be taken as prescribed, "by the clock", not 'as needed'.

[1] North Carolina, Utah, Oklahoma, New Mexico, Clark County, Nevada, and King County, Washington.

Recommended Strategies from the Injury Community Planning Group:

1. **Educational interventions for high risk groups.**

- Target educational interventions at middle aged men and women, and Alaska Native/Native Americans to raise awareness about the magnitude and risks of unintentional overdose, preventive behaviors and precautions, available emergency and treatment resources, and how to prevent substance abuse.

- Target families with young children to raise awareness about eliminating potential hazards (such as making sure medicines, vitamins, and household cleaners are either locked with a child safety latch or out of reach), and calling the national poison hotline at 1-800-222-1222 if they think a child has consumed a poisonous substance.

2. **Educational interventions for professionals (physicians, nurses, pharmacists, social workers, chemical dependency professional counselors, and law enforcement).** Focus educational interventions at raising professional awareness of the magnitude, risks and signs of unintentional overdose. Use practice guidelines and educational and credentialing requirements for prevention, treatment and enforcement activities to further raise providers' awareness. Education should include how to spot drug seeking behavior and how to intervene, including what resources are available.

3. **Police immunity.** Seek ways to provide police immunity to users who provide first aide and assistance at the scene of an overdose. Because of the threat of arrest, users often abandon fellow users after an overdose rather than stay and provide first aid.

4. **Prescription monitoring system for controlled substances.** Establish a prescription monitoring system of controlled substances with the goals of (a) establishing the ability to identify and track instances in which controlled substances are being obtained from multiple prescribers for a variety of complaints, and (b) identifying suspected controlled substance abusers and steering them into treatment.

5. **Increase treatment of drug abuse**

There is a need to increase the number and percentage of chemically dependent adults and youth who receive quality substance abuse treatment in a timely manner. The Division of Alcohol and Substance Abuse (DASA) within the Department of Social and Health Services currently treats about one out of four individuals (adults and youth) in need of, and who qualify for, publicly funded chemical dependency treatment. Waiting lists for treatment are at an all-time high, and have tripled in the past decade.[iii] There is a need to increase all types of substance abuse treatment including opiate treatment programs, outpatient treatment programs and residential services. There are many opportunities to ensure those who need treatment and are covered through insurance or capitated health plans receive it. Researchers have found that 9 out of 10 primary care doctors fail to diagnose substance abuse in patients who display classic symptoms of the problem.[iii] Opportunities exist in enhancing training of health care personnel, and in

ensuring there are clear protocols for referrals to treatment. There are also opportunities to increase treatment by increasing partnerships between state agencies and divisions.

The Washington Screening, Brief Intervention and Referral to Treatment project screens trauma patients for alcohol or drug abuse or addiction, and refers them to treatment as appropriate. Emergency Departments (EDs) are an ideal setting to identify and intervene with drug seeking behaviors as a means to prevent unintended poisoning, because ED patients are more likely to need chemical dependency treatment than the general population. Moreover, studies have shown that psychosocial interventions delivered to injured patients in EDs and inpatient wards of trauma centers can reduce alcohol and drug consumption, prevent future injury, including overdoses and help patients with more severe problems access intensive, community-based chemical dependency treatment. Based on findings from similar interventions[iv], it is estimated that about 20% of ED visitors need brief education, intervention, or referral to treatment. This is about twice the rate of need in the general population.

Another important strategy in reducing substance abuse among nonviolent chemical dependent offenders is to increase 'drug courts' which integrate drug treatment services with judicial system case processing, monitoring, supervision, mandatory drug testing, sanctions and other administrative services.

6. **Increase prevention of drug abuse**
The single most effective way of dealing with the disease of chemical dependency is preventing it before it starts. Promising strategies include:

- School-based prevention programs such as the Life Skills Training Program
- Family-based prevention programs such as the Strengthening Families Program
- Youth mentoring programs such as Big Brothers Big Sisters of America

Resources:

Washington State:

1. Washington State Alcohol and Drug 24 Hour Help Hotline 1-800-562-1240
   http://www.adhl.org

2. Washington State Division of Alcohol and Substance Abuse
   http://www1.dshs.wa.gov/dasa/

3. Washington State Poison Center http://www.wapc.org/

4. Washington State Childhood Injury Report
   http://www.doh.wa.gov/cfh/injury/pubs/childhood_injury_report.htm

National:

5. Signs and symptoms of drug addiction
   http://www.mayoclinic.com/health/drug-addiction/DS00183/DSECTION=2

6. Life Skills Training Program
   http://www.lifeskillstraining.com/

7. Strengthening Families Program
   http://www.strengtheningfamilies.org/

8. Big Brothers Big Sisters of America
   http://www.bbbsa.org

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[i] Drug Enforcement Administration. US Department of Justice. Automation of Reports and Consolidated Orders System. Retail Drug Summary. http://www.deadiversion.usdoj.gov/arcos/retail_drug_summary/index.html

[ii] Franklin GM, Mai J, Wickizer T, Turner JA, Fulton-Kehoe D, Grant L. Opioid dosing trends and mortality in Washington State workers' compensation, 1996-2002. Am J Ind Med. 2005 Aug;48(2):91-9.

[iii] Department of Social and Health Services, Division of Alcohol and Substance Abuse. Strategic Plan 2006-2011. Available at http://www1.dshs.wa.gov/dasa/services/OPPLR/strategicplan.shtml.

[iv] Gentilello LM, Rivara FP, Donovan DM, Jurkovich GJ, Daranciang E, Dunn CW, Villaveces A, Copass M, Ries R. Alcohol Interventions in a Trauma Center as a Means of Reducing the Risk of Injury Recurrence. Annals of Surgery. 1999;230(4):473-80.

Reducing Poisonings in Washington State

Because we have these resources…

Inputs

- Funding
- Data
- State Agency Staff (L&I, DOH, DSHS)
- Local partners and organizations
- Injury Community Planning Group
- Research-based best practices or promising interventions

…we are able to implement these strategies/activities

Strategies/Activities

- Disseminate data on poisoning deaths to state and local partners
- Engage statewide partners
- Establish a prescription monitoring program for controlled substances
- Enhance public and professional education regarding drug interactions and overdose, treatment and prevention
- Implement new prevention programs (mentoring, brief intervention)

…and create these resources…

Outputs

- Statewide strategy to address rising poisoning deaths
- Prescription monitoring program for controlled substances
- Public and professional education campaigns
- Youth mentoring and brief intervention programs

…so that we achieve these outcomes for our citizens.

Short Term Impacts → **Intermediate Outcomes** → **Long Term Outcomes**

KNOWLEDGE

- ↑ awareness about the magnitude, risks and signs of unintentional overdose, preventive behaviors and precautions, and available resources
- ↑ awareness about treatment and prevention of drug abuse

CAPACITY

- ↑ tracking of controlled substances being obtained from multiple prescribers for a variety of complaints
- ↑ drug abuse treatment programs (opiate and outpatient treatment, and detoxification)
- ↑ drug courts
- ↑ prevention programs

BEHAVIOR

- ↑ use of available resources (i.e. Poison Control Center)
- ↓ prescribing excessive doses of controlled substances
- ↑ controlled substance abusers in treatment
- ↑ patients limited to one prescribing physician
- ↓ new drug abusers

Long Term Outcomes

- ↓ poisoning death rate
- ↓ poisoning hospitalization rate

6/27/06